BUREAU OF CONSUMER PROTECTION Consumer Facts

Protecting Wisconsin Consumers for 75 Years

Generators

Some consumers prepare for the possibility of power outages by buying an electric generator as a standby system to keep lights and their appliances running until service is restored.

A generator may be able to save food in your refrigerator or freezer during a prolonged outage, let you keep your home office running, or power other essential equipment. Generators can be expensive and noisy. They can also pose serious safety hazards to you and to others, so please follow all safety instructions provided by the manufacturer.

Customers with a permanently installed or portable generator should not connect it to another power source, such as your electric company's power lines. If you own and operate a generator, you are responsible for making sure that electricity from your unit cannot "back-feed," or flow into power lines. For safety's sake, be sure to use your generator correctly. If you do not, you risk damaging your property and endangering your life and the lives of electric company line workers who may be working on power lines some distance from your home.

Equipment information:

Permanent standby generators are permanently connected to your home's electrical system and energize the building's wiring. This type of installation requires a device that prevents the generator from being connected to the electric company's power lines. Follow these safety tips:

Only a qualified professional, such as a licensed electric contractor, should install a permanent standby generator.

A double-pole, double-throw transfer switch is the recommended device to keep your generator from back feeding into the electric company's system. The switch also keeps electricity from the power company re-energizing your home's wiring while your generator is running, and protects your generator, wiring and appliances from damage when your service is restored. (See: **Transfer switches**)

If you install a permanent generator, call your electric company to let them know about your back-up system. They will make a note in their records to remind their workers of your generator if they are working on an outage in your area.

If you already have a permanently installed standby generator but you do not know if it is installed properly, call your local building inspector or a licensed contractor for help.

Portable generators are designed to be connected only to selected appliances or lamps. These generators never should be connected directly to a building's wiring system.

Before starting your generator, carefully read and follow all of the manufacturer's instructions.

Be sure that the total electric loads on your generator will not exceed the manufacturer's rating.

Always locate your generator where its exhaust will vent safely outdoors.

Prioritize your needs. Using the lowest wattage light bulbs that provide a safe level of light will reserve power for additional lighting elsewhere or for a small appliance. Remember that the greater the load on your generator, the more fuel it will use.

Keep cords out of the way so they do not present a tripping hazard – especially in dimly lit doorways or halls. Never run cords under rugs

or carpets where heat might build up or damage to a cord may go unnoticed.

Extension cords must be properly sized to carry the electric load. Overloaded cords can overheat and cause fires or damage to equipment.

Use ground fault circuit interrupters (GFCIs) which will shut off power when an electrical current is detected outside normal paths. GFCIs and extension cords with built-in GFCI protection can be purchased at hardware stores and other locations that sell electrical equipment.

Transfer switches protect your home, generator, and linemen.

Use a transfer switch when connecting to a building's electrical system. Have a licensed electrician install the transfer switch.

A transfer switch protects the lineman. The utility line voltage is normally "stepped down" before entering the home by a transformer. The transformer can work in reverse when voltage is sent through it in the opposite direction by your generator and "step up" the voltage. This stepped up voltage, backfeeding through the utility lines, may electrocute workers that come into contact with the utility lines. A transfer switch protects your home & generator. Improper connections can allow the generator to overload the utility line when power is restored. This could cause a fire in your home's electrical system or cause the generator to explode or burn.

Operating a generator:

Operate in the open – Do not operate the generator inside a building, vehicle, or an enclosure. The engine's exhaust contains poisonous carbon monoxide. If you run the generator in an area that is confined, even partially enclosed, or if the exhaust is pointed toward a partially enclosed area, the air you breathe could contain a dangerous amount of carbon monoxide. To keep exhaust from building up, operate only in open areas and provide adequate ventilation.

Operate in dry conditions – The generator produces enough electric power to cause a serious shock or electrocution in any condition, particularly in wet conditions. Water decreases the resistance between the generator, the operator, and earth which increases the likelihood of electrical shock.

Using a generator or electrical appliance in wet conditions, such as rain or snow, or near a pool or sprinkler system, or when your hands, feet or clothes are wet, could result in electrocution.
Operate on firm, level surface – If the generator is operated at an angle, the lubrication system may fail causing a lack of lubrication to the critical moving parts of the engine. If the generator is operated in sandy, dusty conditions, the discharged air from the generator end will stir up dust. The dust will be sucked up into the air cleaner, plugging it and shortening the generator's life. Dust will also be drawn in with the generator cooling air, sandblasting the electrical windings of the internal generator parts.

Keep your generator original – Do not make modifications to the fuel or exhaust systems. Modifications to the exhaust system can add extra stress to the original system. This added stress could damage the system, creating an exhaust leak. Modifications to the fuel system, such as adding an auxiliary tank, will only create more pressure in the fuel system. This added pressure could cause the fuel system to break or leak, increasing the risk of a fire.

Adding larger auxiliary tanks to the system will create more pressure and result in a possible external fuel leak which may result in fires.

Generator readiness – To be sure the generator is ready when you need it: The generator should be started and loaded at least once a month. The fuel tank should be kept filled with fresh fuel. A fuel conditioner should be used to keep the fuel from breaking down.

Safety tips:

- ALWAYS store gasoline in approved containers only!
- NEVER fuel an electric generator when the generator is running or hot!
- EXTINGUISH all flames or cigarettes when handling gasoline!
- ALWAYS insure proper ventilation, and air flow around the generator.

- ALWAYS have a fully charged, approved fire extinguisher located near the generator!
- ALWAYS properly disconnect from your utility service BEFORE starting your backup generator! (See: **Transfer switches**)
- ALWAYS store fuel containers out of the reach of children.
- ALWAYS check for exposed wires and frayed shielding when using extension cords and REPLACE if damaged!
- NEVER remove or tamper with safety devices. They are there to protect you and your property!
- KEEP children AWAY at all times! Many engine parts are very HOT during operation; severe burns may result if touched!

For more information or to file a complaint, visit our website or contact the Bureau of Consumer Protection.

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